Chapter X

PLANS FOR A PEACETIME ENGINEERING ESTABLISHMENT

When the Revolutionary War ended Americans were faced with a perplexing decision: should they maintain a standing army in peacetime? They had a longstanding fear that armies threatened individual liberties and no tradition of a standing army. However, many citizens—led by a strong-willed group of nationalists in the Congress and most officers in the Continental Army—argued that the experiences of the Revolutionary War demonstrated the need for a change. To a man they believed the militia alone incapable of meeting the defensive needs of their new nation. Yet even this group stepped back from the traditional European idea of a large standing army led by a clique of aristocratic officers.

In April 1783, as the nationalists' influence waned, Congress appointed a committee to consider the thorny question. Alexander Hamilton, an avid supporter of a peacetime military establishment, served as chairman. The committee immediately called on General George Washington for advice. He in turn sought suggestions from his staff.

In the resulting reports there were many similarities. For each officer, a secure frontier assumed great importance. The west held the promise of the future but Indians and squatters were a constant menace. Hence armed forces were required to protect new settlers, and those forces had to be national in character. With Revolutionary War experiences fresh in their minds, Continental Army officers urged a "professional army composed of career officers trained in the science of warfare."[1] The continuing needs of frontier and coastal security, they argued, mandated a peace establishment which would form the nucleus of a much larger army in time of war.

Engineer officers were quick to recognize that the peacetime arrangements under consideration would require an engineering department and a means of training its officers. Happily the peace establishment proposals of four Army engineers—Duportail, Putnam, Gouvion, and L'Enfant—survive.

Chief Engineer Maj. Gen. Louis Duportail first addressed the subject of a peace establishment in a memorial dated April 1783. Unfortunately that document has disappeared. From statements made by Washington, however, it is known that Duportail proposed the "extensive" fortification of

frontier posts and harbors and the establishment of military academies.[2] Duportail revealed that he had based the plan on "hints" Washington had given him while at headquarters. "I beg your excellency to let me know if i have been happy enough to meet with your ideas," Duportail told Washington when he sent the plan to him in May, "wishing not to propose anything to Congress but through you and what you approve of."[3]

When he finally saw Duportail's report, Washington exclaimed to the president of Congress:

> The more attention will be due to the sentiments expressed by . . . [Duportail] because they appear not only to be the production of a well informed mind, and the result of much experience, aided by great professional knowledge, but because they seem also to be dictated by a disinterested zeal for the future tranquility and happiness of the United States.[4]

The Commander in Chief passed on the report to Congress with the hope that Duportail's recommendations would be utilized "so far as they may be found practicable with our means, and applicable to our local circumstances."[5] Actually Duportail had submitted his plan to Congress even before showing it to Washington.

Col. Jean Baptiste de Gouvion, a top-ranking engineer, also contributed to the peace establishment debate. In a proposal dated 16 April 1783, Gouvion stressed the need for securing America's frontier and her harbors, and he favored a continental army over individual state establishments. He

JEAN BAPTISTE DE GOUVION. ***One of three Royal Engineers the French govemmen t sent to America with Duportail, Gouvion (1747-92) distinguished himself during the siege of Yorktown. This engraving is by Jacques Cordier.***

Contenson, ***Societe des Cincinnati de France***

focused on thorough training for artillerists and engineers, whose "Service is of So important a nature, and of Such a consequence in the field."

Gouvion deemed a military academy essential and detailed extensively its structure and the type of instruction required. Included in his proposed training program were rigorous field exercises as a prerequisite for entering a regiment.

Gouvion joined other engineer officers in urging that the artillery and engineers be united into one corps. He envisioned at least two regiments in the corps, each composed of companies of gunners, bombardiers, sappers and miners, and artificers. Of special interest is Gouvion's view that officers should only be detached as engineers after service in each of the four separate companies in the corps. The need to maintain a high degree of proficiency among officers through continual instruction and exposure to many experiences was a crucial consideration behind Gouvion's plan.

Gouvion was careful to note that France's attempt to unite the artillery and engineers had failed because it was done in time of war (1755–58) and the officers were unprepared to assume new roles. The French experience, then, was no reason to fear for the success of a similar move in the United States.

1. "AN OFFICER OF ARTILLERY AND AN ENGINEER WANT A GREAT APPLICATION TO BE PERFECTLY INSTRUCTED"

Jean Baptiste de Gouvion's recommendation for a peace establishment.

Newburg, April 16, 1783

How large must be the continental Army to be Kept after this war is not an easy matter to determine in the present moment, it depends from two different and distinct objects which comprehend a very extensive plan. The first is the number of forts absolutely wanting Garrison for the protection of the frontiers, and opposing the indians in case they would Keep up their hostile invasions or renew it at any time. The Second is the garrison of the harbours for the continental navy, which being destined to contain Stores of great value and importance, are not to lay open to an invasion in case the United States should happen to be at war with any power. . . .

Each regiment to be Kept or to be raised ought not to belong to any particular State, but to the continent at large, the officers and men to be taken indifferently from any part, it is to be feared that if the contrary did exist the officers would always use all their influence to be always stationed in the State they Should belong to, and in a Short time be like inhabitants to the great detriment of discipline and military Spirit.

A regiment or part of it ought never to keep garrison more than eighteen months in the Same place, in a longer length of time they get too

many acquaintances, injurious to the Service, and being in a manner Settled neglect their duty to employ themselves about their own conveniences.

Promotion by Seniority is the destruction of emulation, because every officer is Sure to be promoted according to his rank, also many worthy officers are fit to be captains but not to be field officers. So that Sistem ought to be left aside. Merit, activity and attention constantly pay'd to instruction, duty and discipline must be the only recommendation for promotion above the rank of captain. A board of Superior officers be the Judge of it, and the necessary precautions to be taken to hinder private interest from prevailing.

As the number of troops Keept on foot during the time of peace Shall be inadequate to that necessary in time of war, they must be alwis in the best and most regular order, So that being destributed among the regiments raised for a war they Should bring with them discipline, instruction and enable the other men to perform in a Short Space of time every part of a Soldier's duty with propriety.

The young officers who Should be willing to acquire Some military knowledge ought to be permitted to follow the after mentioned military academy and proper encouragement given to them. Those to be admitted in the quarter master departement ought to be obliged to it, because it is not easy to perform their duty in all its different parts chiefly when an army of Some extent has to move in a difficult country.

It is not very difficult to form an officer of foot, or of horse, it does not require a long Space of time, but an officer of Artillery and an Engineer want a great application to be perfectly instructed in all the different branches of their Service. Being more acquainted with the duty of these two Corps than of any other I will particularise as much as in my power the different methods to be followed for the instruction of their officers, and the regulations to be established to attain it. Their Service is of So important a nature, and of Such a consequence in the field, that no pains ought to be Spared to have them fully acquainted with the theorical and practical parts of it.

The military operations of these two corps have Such a connection that it is not possible to be a good officer of Artillery without having a pretty extensive knowledge of the Service of an Engineer, and this one to Serve with Some reputation must be acquainted with the principle parts of the artillery Service. Then I think it Should be advantageous to the good of the Service to have these two corps united, to form one only, and that each officer Should acquire the necessary Knowledge to be able to perform, with propriety what belong to one or the other of these two duties, according to what circumstances Should require from him.

A well established military academy and Kept up with great care, is the basis which is to Serve to raise that corps to the pitch of instruction neces-

sary to it. Officers of Knowledge, carefull and attentive must be put at the head of it. They must consider that the pains they Shall take are to form officers who are to have charge after wards of important operations, which require Sometimes great military talents. There must be attached to it a good professor of mathematicks, and another of drawing. Every young gentleman to be admitted in the Said academy must have had a liberal education, and be previously instructed in arithmetick, geometry including trigonometry. At his coming in, his Knowledge of mathematicks must be carry'd to perfection, he Shall receive instruction about the different machines employed by the artillery or the engineers; their construction; the forces to be employed to put them in motion, and their effect. He Shall be taught to Survey by every method, and to draw exactly the ground Surveyed by him, to make plans and profils of the works and buildings in the greatest detail. The above mentioned parts belong entirely to the professors. What follows must be [taught] by the commanding officers.

The young gentlemen Shall be instructed how to choose positions for an army in consequence of the part of the country to be covered and the communications to be Kept open. They will learn to fortify them by field works depending from the nature of the ground, the number of troops Supposed to be employed to deffend them, and the Strength of the ennemy. They Shall be taught to determine the most advantageous batteries on a field of battle, and their construction in the most expeditious manner. They are to be instructed in the greatest detail of all what relates to fortify'd towns including the maritime places, their tracing, construction, and the estimate of the quantity of work and expences. Those parts can not be attended to with too much care, because the least blunder is often attended with infinite bad consequences. They Shall receive instruction concerning the Subterraneous fortification, the attack and defense of works by the means of mines. They Shall be taught how to reconnoitre an enemy's fortification, lay it on the paper, and determine exactly the different distances from it. Every year the commanding officer of the Academy Should make choice of a piece of ground fit to lay out a front of fortification, the direction and the height of the works should be mark'd with poles. He should explain to the young gentlemen, the use of each part of it, and the reasons which have determined the direction of it. That part being finished they will proceed to the attack of it. All the batteries and works necessary from the opening of the trenches to the reduction of the place are to be lay'd out, and Some parts of it to be done to give them an idea of the different construction made use of in those occasions. They will pay a particular attention to the advantages afforded by the nature of the ground, also to the means the besieged could employ to oppose the approaches with Success. That being performed every young gentleman is to Survey that front and its attack and make a copy of it, also a memorial

on its construction, its attack and defense, adding to it an estimate of the artillery Stores, and ammunitions necessary for the besieged and besiegers in consequence of the Strength of the fortification, and of the Supposition of the time the Siege would last. When perfectly instructed in all the different parts here above mentioned, of which the General commanding the corps, and the officers at the head of the academy are to be the Judges he is to be admitted into one of the regiments of artillery. The continent cannot Keep less than two, and are to be composed as follows. Eight companies of gunners, two companies of bombardiers, one of Sappers and Miners and one of Artificers.

The regiments are to be exercised twice a week to the firing of canon, mortars, etc., a field officer to be alwis present and report to the Commanding officer of the regiment when absent from the field of exercise.

The Subalterns ought to receive twice a week a lesson about the theorical parts of the artillery and a captain to be present to it to maintain the good order and preside to the instruction, and from time to time they Should be exercised again about what they have learned in the Academy. The Captains and field officers ought to have two times a week a conference where they Should treat of all the parts concerning artillery, fortifications, manufactures of arms, powder mills, castings of canons, Shells, balls, the best dimensions to be given to the pieces and carriages, in Short their object Should be to carry the instruction and Service of that corps to the greatest perfection. The Commanding officer should ask a memorial from every officer on the interesting points he would have proposed for discussion.

Besides the officers on duty with the regiments there Should be a certain number to perform the duty on Engineers where necessary, but none Should be Sent for that purpose unless he had been employ'd Successively in the four distinct Sorts of companies forming a regiment, and Should be perfectly acquainted with their Service. He could not be on that command for more than three years, after which time he Should join a regiment and be relieved by another officer Sent to the Same effect.

A company ought not to be detached from the regiment for more than two years, because it is to be feared that (in a longer Space of time) the men would loose the greatest part of the instruction acquired with the regiment, if too a long time absent from it.

The companies of Sappers and miners should have a particular exercise relative to their duty in the field, but their officers Should also partake of the general instruction of the corps of artillery.

It is absolutely necessary that the officers of the companies of artificers Should be intelligent, attentive, and industrious. They ought not

only take rank with those of the others companies, but their places Should be considered as places of trust and confidence.

There ought to be Some officers (extra of the number of those with the regiments) detached in the different manufactories of arms, places for casting canons, and powder mills, to Superintend the works. They Should be relieved from time to time by others coming from the regiments. Those stations are to be looked upon as of great importance.

A field officer Should be in every district at the head of the fortifications, and Judge of every thing to be proposed, he could not remain there when promoted but Join a regiment.

It is of the utmost consequence that an officer of artillery attached to a brigade with Some field pieces, Should be perfectly acquainted with the different manoeuvres of the troops, So it is a part which is not to be neglected.

The plan I propose here to form but one corps of those of artillery and Engineers was put in execution in france, but as it was in time of war Some Engineers were sent to the Army to do the duty of the Artillery, and Some officers of artillery to Serve as Engineers, but having not had time to be perfectly acquainted with the details of a Service of which they had but a general Knowledge, it was found proper after a little while, to let every one of these officers Serve in the line they formerly belong to, and the two corps were disunited. But I am confident that if the reunion had taken place in another circumstance, So that the officers of each corps Should have had time to acquire what Knowledge was wanting to them of the Service they did not at first belong to; that plan would have Succeeded, and found afterwards very advantageous.

—Washington Papers, roll 91.

Brig. Gen. Rufus Putnam, Duportail's predecessor as Chief Engineer, joined Gouvion in advocating fortification of America's seaports and frontiers. Putnam even specified five ports whose defense Congress should control. He chose them for strategic reasons rather than for their size and commercial importance. The remaining harbors were deemed safe in the hands of the states.

Putnam singled out the Lake Champlain–Hudson River corridor for congressional attention. He saw West Point as the "Grand Arsanal of America," where the art of gunnery and fortification would be taught and from which companies of artillery—he did not specifically mention the engineers—would be detached to the field. To the west on the Ohio River he proposed a chain of eight posts designed to make the Indians submissive and encourage settlement—a venture Putnam was soon to become personally involved in.

2. "AMONG THE SEA PORTS, NEW YORK CLAIMS THE FIRST ATTENTION"

Rufus Putnam's thoughts on a peace establishment.

April 25, 1783

America is by no means to place her principle Security in walled Towns and the Multitude of her Fortresses, *nor* is she in time of Peace to be at the expence of a reguler Army Sufficient for the defence of every part of her Territorys, Should they be invaided. Yet unless her harbours (at least the principle ones) are Secured by Fortifications and Small Garissons, her Sea Ports are liable to be Surprised, plundered and burnt, or laid under contributions by a few Ships of War; and if aided by land Forces an Enemy might in some of them, So establish him Self in a very Short time as to render it very [difficult] to drive him out.

Her frontiers, Should also be So Secured, by Forts and Garisons in such maner as at least might retard the opperations of an Enemy till the Force of the country may be collected to oppose him.

Among the Sea Ports, New York claims the first attention, No Spot on the Continent the possession of which is of So much consequence to the United States as that, and with a very little expense, compared with the object, may be rendered perfectly Secure against any Surprise or Insult whatever.

Falmouth [modern-day Portland] in the province of Main is the next Harbour eastward that ought to claim the attention of Congress. It is in the very Neighbourhood of Halifax.[6] The Country but thinly Settled the Harbour is deep and Spacious, the Town on a peninsula, and Should an enemy establish him Self there the whole eastern Country would be in danger of being lost.

Penobscot . . . is Still further east has also a Spacious Harbour and is the Source, I am told, from whence the eastern States are to expect the most of their Masts Spars and Lumber. There are also in the Back Country Several Tribes of Indians.

From New york Southward Charles Town and Savanna are the first I suppose Intiteled to the Notice of Congress, they have the Spaniards on their Right and Savages in the Rear, are properly the Frontier, on the quarter and I am told the Country is but thinly peopeled.

Their are other Harbours and Sea ports of very great consequence but I think they will be perfectly saif in the hands of the States, to which they belong and Should Congress Interfeir in the matter it might give very grate Jealousy at least to Some of them.

In point of Importence Next to the Citty and Harbour of New york, the North River and the Commun[ication] between New york and Canada ought to Claim the first attention, for whoever attempts the Conquest of

America will in my opinion, if he acts right, endever to Establish him self on the Hudson and by a chain of Posts in that quarter to Seperate the eastern from the midle and Southern States, on this . . . then Congress Should always keep an eye and Never Suffer an enimy, Foreign or domistic to fix himself on any part of it.

West Point is perhaps as well Sittuated for the Grand *Arsanal* of America as any place whatever and by dismanteling most of the out works, a much Smaller Garison will be required then in its present State, this Garison should consist Chiefly of Artillery men and Include also one Company of Artificers. Here Should all the Carage and apperatis for the artillery be made, here should the Art of Gunnery and Fortifications be Taught, and from hence Should the artillery Companys detached to other posts be releved at least once in three year. Besides West Point there will undoubtedly be other Arsinals established both east and West that will require Small guards.

I consider Stoney point as an appendage to West Point whither the former remain in its present State or a reguler Fortification be built there; which is a Subject worth consideration.

In order to prevent a [surprise] from Canada by way of Lake Champlain, if the Sittuation will admit a Fort Should be built at Wind mill Point or Point au Feir, or Some where near the Forty fifth degree of Lattitude and the River or Lake so obstructed as forever to Shut the British out of it. This matter I concive to be worth attention and examenation, for if practicable *then* in case of a War with Great Briton it will prevent their makeing them Selves masters of the Lakes and at the Same time it will give great Security to . . . that part of the Country called the Hanphere [Hampshire] Grants [Vermont] and other Setlers Near the Lake and will also aide us in Introduceing an Army into Cannada when ever that Should be thought proper. In the mean time it will be a means of checking any Illicit trade in that quarter, interrupt the wicked Corrispondence and be a good means to prevent the revolt of the Virmonteres Should they have it in Contemplation.[7]

But if no place can be found Sutable for a Fortification further Northward, then Crown Point *then* that Should be fixed on. The Lake is Narrow here its pasage esily obstructed, and the Sittuation elligable for an Independent Strong Work of any Size you please.

The Necessity of a Fortress Some where on Lake Champlain to prevent any Sudden Eruption from Cannada into the provence of New york I think is obvious and if one is established there, Some Intermediate Posts will be necessary between that and Albany for the Lodgement and Security of the Stoars that may be Sent northward, viz, one at Fort George and another at the Landing at the further end of Lake George but a Block House or even a Stockade with a very few Troops as a Guard will be Sufficient.

Albany will no Doubt requier Some Troops as it will be the place for Lodging at least for a time the Stores designed for the Northern and We[stern] Fronterrs.

To keep the Western Savages in Awe to protect and regulate our Trade with them and prevent any insidious practices of our British and Spanish Neighbours as far as posable, Some Fortresses and a Small reguler Establishment is absolutely necessary.

The British Used to Send their Supplys to Niagara from Canada, of course are under no necessity of keeping a Post at Oswego, but in our present Sittuation I concieve that all our Supplys for the Country on the Lakes must pass that way, and besides in order to protect the . . . [French] Settelments above Detroit, Encourage their emigrations from Cannada and Secure the posts in that Quarter from Surprize our Force Should be much greater even in time of peace then what the British Used to keep. They had only the Savages to guarde against we have them and the Savages Both to look to.

If we wish to Secure the people of Illinois from the Surprize of the Spaniards our Force There Should always be equal to theirs.

To Secure the Communication between Fort Pitt and Illinoise to give Protection to the Inhabitents . . . on the warters of the Ohio to awe the Southern Indians and check any attempt that may be made up that River I belive Several Small Post on or near the Ohio will be found Necessary. Perhaps the place where Fort Massac Stood, 46 miles from the Mouth of the Ohio, may be found a proper Spot for one of those Intermediate posts.

In time of War a Navel Superiorety on the Western Lakes may be more likely to fall to the Share of the British then to us, or at least the Superiorietty is uncertain. I wish therefore to Suggest the propriety of opening Some other Communication with Lake Erie, then that through Lake Ontario, by which Niagara Detroit, etc., etc., may recive Supplys in case of Necessity, for besides the Idea of the British haveing a Navel Superiorety in Lake ontario Should Niagara by any Misfortune be taken with it we must loose the whole Western World, unless Some other Communication is opened with it then at present.

This Communication may be made from Fort Pitt to Presque Isle, but I think the Most Elligable is From Fort Pitt by Big Bever Creek Kishkuske and Cayahoga or Down the River from Fort Pitt to yallow Creek from thnce by Tuscarawas to Cayahoga and Lake Erie.

But I wish to propose for Consideration a much more exten[sive] plan attended with very little additional expence and when considered in an extensive point of vew I concieve to be of very great consequence, Viz to fix a post at the mouth of the Cayahoga River; a 2d at the one mile portage between the Heads of the Cayahoga and Muskingum Rivers; a 3d at Tuscarawas; a 4th at the Forks of Munkingum; or Delleware Town; a 5th near Wills Town; a Sixth near the Mouth of Muskingum; a 7th near the Hockhocking; an 8th on the Great Kanhawa. Some Such Chain of Posts in that Quarter I concive would give Such Encouragement not only to those who have lands on this Side the ohio but also to Such as may obtain grants

on the other Side as would Induce Such Emigrations to that Quarter, that within a few years the Country West of the Allegheny Mountains would not only be able to feed all our Garisons in the Western World, but render that Frontear perfectly Secure. The Savages about the Waters of the Mohawk Susquehannah Oswego and Ohio when they See them Selves encompassed with forts and garisons would undoubtedly behave very Submissive or move further afeild.

The expence of Building these Posts will be very Small, a good Stocade with proper Flankers will be abundently Sufficient in all instences except the one at the Mouth of the Cayahoga, which will require more attention, Nor will it require any Considirable, if any, increase of Troops as Fort Pitt and some other Posts will require a less number in this case then would be other wise necessery. . . .

—Washington Papers, roll 91.

Several officers outside the Corps of Engineers also recognized the need for officers trained in the art of war. Brig. Gen. George Clinton, governor of New York, proposed that professorships in military science be set up in each state to assure a continual "succession of officers well versed in the tactics of war."[8] By contending that officers must attend a stated number of courses and lectures and be admitted to degree candidacy *before* receiving their commissions, Clinton envisioned a highly professional army.

In his peacetime recommendations, Col. Timothy Pickering—a student of military history and tactics, author of a 1775 drill manual, one-time adjutant general, and later quartermaster general—acknowledged a limited need for engineers. He also favored a military school at West Point.

3. "AS MANY AS TWO ENGINEERS WILL PROBABLY BE ALWAYS FOUND NECESSARY"

Timothy Pickering to George Washington.

April 22, 1783

. . . For the purpose of fixing the posts on the frontiers, it will be necessary to retain two or three engineers; each of whom, having a separate duty, should be accompanied, on this service, by an officer of ability. These may be field officers, and vested with the Command of the standing troops, who may be formed into one regiment of four battalions; the regiment to be commanded by a colonel or lieutenant colonel, and each battalion by a lieutenant colonel or major. . . . To erect these posts in the first instance, a competent number of the three-years-men[9] will doubtless be retained in service, unless others can be engaged on cheaper terms.

As many as two engineers will probably be always found necessary, for visiting the posts and repairing fortifications or erecting new ones as circumstances shall require.

It is hardly to be expected that the arsenals will be constantly kept in proper order, unless they are subject to visitations, at least annually. The visitor may most properly be an artillerist, who is both practically and scientifically acquainted with his profession. He may be one of the field officers of the regiment. For I see no necessity keeping the infantry and artillery distinct. . . .

If anything like a military academy in America be practical at this time, it might be grounded on the permanent military establishment for our frontier posts and arsenals; and the wants of the states, seperately, of officers to command the defences on their seacoasts.

On this principle it might be expedient to establish a military school, or academy, at West Point. And that a competent number of young gentlemen might be induced to become students, it might be made a rule that vacancies in the standing regiment should be supplied from thence. Those few instances excepted where it would be just to promote a very meritorious sergeant.

For this end the number which shall be judged requisite to supply vacancies in the standing regiment must be fixed; and the students who are admitted with an expectation of filling them limited accordingly. They might be allowed subsistance at the public expense. If any other youth desired to pursue the same studies, at the military academy, they might be admitted, only subsisting themselves. Those students whould be instructed in what is usually called military discipline, tactics, and the theory and practice of fortification and gunnery. The commandant and one or two other officers of the standing regiment and the engineers, making West Point their general residence, would be the masters of the academy; and the inspector general superintend the whole. . . .

—Washington Papers, roll 91.

Having weighed the advice of his staff, Washington submitted his own peace establishment plan to Hamilton's committee on May 2. At the time the Commander in Chief was "quite in the dark" regarding all aspects of the future of the Army in the United States.[10] He sincerely hoped that the Congress would at least heed some of his suggestions, which drew heavily on the proposals made by his advisors. His plan was "an even-handed document, mindful of the country's deeply ingrained suspicions of men in uniform."[11]

For Washington the issue was one of scale. A large army was "dangerous to . . . liberties" but a small force was "indispensably necessary." He set officer and troop requirements at 2,631. In one part of his proposal, not included below, Washington stipulated that four regiments of infantry, each

comprising 477 men, would be garrisoned at fifteen specific locations elsewhere and at an undetermined number of posts on the Carolina and Georgia frontiers. He placed the remaining 723 men in a single artillery regiment. Washington proposed that an additional force of artificers be blended with the artillery and that the Corps of Invalids be retained to help guard magazines and garrison West Point.[12]

As demonstrated in the following selections from Washington's plan, he supported the union of the artillery and engineers into one corps. More important, he strongly urged the establishment of at least one academy "for the Instruction of the Art Military; particularly those Branches of it which respect Engineering and Artillery, which are highly essential, and the knowledge of which, is most difficult to obtain." Military education is crucial, he said, "unless we intend to let the Science become extinct, and to depend entirely upon the Foreigners for their friendly aid."

The Commander in Chief was acutely aware that most of his best engineers during the Revolution were foreigners with formal training. Indeed, in a letter written earlier to Duportail, Washington had admitted that "it will doubtless be necessary for us to retain some of the French Engineers in America," at least while the proposed military academies and manufactories were in their infancy.[13]

That Washington dispatched his peace establishment plan to Congress before receiving a copy of Duportail's recommendations for the engineering department probably accounts for Washington's sketchy references to the engineers.

4. "A CORPS OF ABLE ENGINEERS . . . CANNOT BE RAISED IN A DAY"

George Washington's sentiments on a peace establishment.

May 2, 1783

A Peace Establishment for the United States of America may in my opinion be classed under four different heads Vizt:

First. A regular and standing force, for Garrisoning West Point and such other Posts upon our Northern, Western, and Southern Frontiers, as shall be deemed necessary to awe the Indians, protect our Trade, prevent the encroachment of our Neighbours of Canada and the Florida's, and guard us at least from surprizes; Also for security of our Magazines.

Secondly. A well organized Militia; upon a Plan that will pervade all the States, and introduce similarity in their Establishment Manoeuvres, Exercise and Arms.

Thirdly. Establishing Arsenals of all kinds of Military Stores.

Fourthly. Accademies, one or more for the Instruction of the Art Military; particularly those Branches of it which respect Engineering and

Artillery, which are highly essential, and the knowledge of which, is most difficult to obtain. Also Manufactories of some kinds of Military Stores.

Upon each of these, and in the order in which they stand, I shall give my sentiments as concisely as I can, and with that freedom which the Committee have authorized.

Altho' a *large* standing Army in time of Peace hath ever been considered dangerous to the liberties of a Country, yet a few Troops, under certain circumstances, are not only safe, but indispensably necessary. Fortunately for us our relative situation requires but few. The same circumstances which so effectually retarded, and in the end conspired to defeat the attempts of Britain to subdue us, will now powerfully tend to render us secure. Our *distance* from the European States in a great degree frees us of apprehension, from their numerous regular forces and the Insults and dangers which are to be dreaded from their Ambition.

But, if our danger from those powers was more imminent, yet we are too poor to maintain a standing Army adequate to our defence, and was our Country more populous and rich, still it could not be done without great oppression of the people. Besides, as soon as we are able to raise funds more than adequate to the discharge of the Debts incurred by the Revolution, it may become a Question worthy of consideration, whether the surplus should not be applied in preparations for building and equipping a Navy, without which, in case of War we could neither protect our Commerce, nor yield that Assistance to each other, which, on such an extent of Sea-Coast, our mutual Safety would require.

Fortifications on the Sea Board may be considered in two points of view, first as part of the general defence, and next, as securities to Dock Yards, and Arsenals for Ship Building, neither of which shall I take into this plan; because the first would be difficult, if not, under our circumstances, impracticable; at any rate amazingly expensive. The other, because it is a matter out of my line, and to which I am by no means competent, as it requires a consideration of many circumstances, to which I have never paid attention.

The Troops requisite for the Post of West Point, for the Magazines, and for our Northern, Western and Southern Frontiers, ought, in my opinion, to amount to 2631 Officers of all denominations included; besides the Corps of Invalids. If this number should be thought large, I would only observe; that the British Force in Canada is now powerful, and, by report, will be increased; that the frontier is very extensive; that the Tribes of Indians within our Territory are numerous, soured and jealous; that Communications must be established with the exterior Posts; And, that it may be policy and economy, to appear respectable in the Eyes of the Indians, at the Commencement of our National Intercourse and Traffic with them. In a word, that it is better to reduce our force hereafter, by degrees, than

to have it to increase after some unfortunate disasters may have happened to the Garrisons; discouraging to us, and an inducement to the Enemy to attempt a repetition of them. . . .

That an Institution calculated to keep alive and diffuse the knowledge of the Military Art would be highly expedient, and that some kinds of Military Manufactories and Elaboratories may and ought to be established, will not admit a doubt; but how far we are able at this time to go into great and expensive Arrangements and whether the greater part of the Military Apparatus and Stores which will be wanted can be imported or Manufactured, in the cheapest and best manner: I leave those to whom the observations are to be submitted, to determine, as being more competent, to the decision than I can pretend to be. I must however mention some things, which I think cannot be dispensed with under the present or any other circumstances; Until a more perfect system of Education can be adopted, I would propose that Provision should be made at some Post or Posts where the principle Engineers and Artillerists shall be stationed, for instructing a certain number of young Gentlemen in the Theory of the Art of War, particularly in all those branches of service which belong to the artillery and Engineering Departments. Which, from the affinity they bear to each other, and the advantages which I think would result from the measure, I would have blended together; And as this species of knowledge will render them much more accomplished and capable of performing the duties of Officers, even in the Infantry or any other Corps whatsoever, I conceive that appointments to vacancies in the Established Regiments, ought to be made from the candidates who shall have completed their course of Military Studies and Exercises. As it does in an essential manner qualify them for the duties of Garrisons, which will be the principal, if not only service in which our Troops can be employed in time of Peace and besides the Regiments of Infantry by this means will become in time a nursery from whence a number of Officers for Artillery and Engineering may be drawn on any great or sudden occasion.

Of so great importance is it to preserve the knowledge which has been acquired thro' the various Stages of a long and arduous service, that I cannot conclude without repeating the necessity of the proposed Institution, unless we intend to let the Science become extinct, and to depend entirely upon the Foreigners for their friendly aid, if ever we should again be involved in Hostility. For it must be understood, that a Corps of able Engineers and expert Artillerists cannot be raised in a day, nor made such by any exertions, in the same time, which it would take to form an excellent body of Infantry from a well regulated Militia. . . .

—Fitzpatrick, *Writings of Washington*, 26:374–76, 396–97.

Issued in mid-June 1783, the Hamilton Committee report indicated the extent to which the remaining nationalists in Congress shared the Army officers' views. The committee both affirmed the need for fortifications and argued for a federal establishment to maintain them. The wording of the report clearly indicates the supporters' political hopes that the peace establishment would help achieve national cohesion. The committee also heeded arguments made by Washington and assuredly reiterated by Duportail as well: a corps of artillery and engineers was a peacetime necessity.

As the committee saw it, the corps required "science and long preliminary study" and could not be simply thrown together in response to an emergency. Moreover, the fortifications proposed on the frontier and along the coast required the skills of artillerists and engineers. Without an established engineer and artillery branch, the Army would be in the disadvantageous position of employing foreigners in wartime. The committee recommended combining the two groups into a single unit—called the corps of engineers—in part because separation gave "rise to frequent disputes about the respective duties of each."

The Hamilton Committee report outlined the corps's structure and laid down a few regulations. Believing that Duportail's recommendations were "in general sound and just," the committee proposed that the Chief Engineer survey the sites to be fortified and draw up a general plan to carry out the work. Notably the congressmen rejected the idea of a military academy. They maintained that having professors attached to the corps of engineers was sufficient.

The Chief Engineer, who would be paid $250 plus subsistence each month, was to be one of three members of the general staff and as such was to assist in revising Army and militia regulations. As for the corps of engineers in general, both its pay and the number of officers in proportion to troops would be higher than in other units.

5. REPORT OF A COMMITTEE OF CONGRESS ON A MILITARY PEACE ESTABLISHMENT

Philadelphia, June 18, 1783

The Committee, are of opinion, if there is a contitutional [*sic*] power in the United States . . . , that there are conclusive reasons in favour of federal in preference to state establishments.

First there are objects for which separate provision cannot conveniently be made; posts within certain districts, the judisdiction [*sic*] and property of which are not yet constitutionally ascertained—territory appertaining to the United States not within the original claim of any of the states—the navigation of the Missippi and of the lakes—the rights of the fisheries and of foreign commerce; all which belonging to the United

States depending on the laws of nations and on treaty, demand the joint protection of the Union, and cannot with propriety be trusted to separate establishments.

Secondly, the fortifications proper to be established ought to be constructed with relation to each other on a general and well-digested system and their defence should be calculated on the same principles. This is equally important in the double view of safety and economy. If this is not done under the direction of the United States, each state following a partial and disjointed plan, it will be found that the posts will have no mutual dependence or support—that they will be improperly distributed, and more numerous than is necessary as well as less efficacious—of course more easily reduced and more expensive both in the construction and defence.

3dly. It happens, that from local circumstances particular states, if left to take care of themselves, would be in possession of the chief part of the standing forces and of the principal fortified places of the union; a circumstance inconvenient to them and to the United States. . . .

4thly. It is probable that a provision by the (Congress) of the forces necessary to be kept up will (be based) upon a more systematic and economical plan than a provision by the states separately. . . .

5thly. There must be a corps of Artillery and Engineers kept on foot in time of peace, as the officers of this corps require science and long preliminary study, and cannot be formed on an emergency; and as the neglect of this institution would always oblige the United States to have recourse to foreigners in time of war for a supply of officers in this essential branch—an inconvenience which it ought to be the object of every nation to avoid. Nor indeed is it possible to dispense with the service of such a corps in time of peace, as it will be indispensable not only to have posts on the frontier; but to have fortified harbours for the reception and protection of the fleet of the United States. This corps requiring particular institutions for the instruction and formation of the officers cannot exist upon separate establishments without a great increase of expence.

6thly. It appears . . . to be the concurrent opinion of the Commander in Chief, the Secretary at War, the Inspector General and the Chief Engineer, not only that some militia establishment is indispensable but that it ought in all respects to be under the authority of the United States as well for military as political reasons. The plan hereafter submitted on considerations of economy is less extensive than proposed by either of them.

The Committee upon these principles submit the following plan.

The Military peace establishment of the United States to consist of four regiments of infantry, and, one of Artillery incorporated in a corps of Engineers, with the denomination of the corps of Engineers. . . .

The Corps of Engineers to consist of one Regiment or two batalions of Artillery, each batalion consisting of four companies, each company of sixty four rank and file; and of a corps of Artificers. . . .

The promotion in the Engineers to be distinct and according to seniority in that corps.

Provided that no officer whatsoever shall consider it as a violation of his rights, if another receives an extra promotion in the corps on account of brilliant services or peculiar talents.

And in order that such extra-promotion may not depend on misrepresentation, it shall not be made but on the recommendation of the Commander of the army, accompanied by the facts and reasons upon which it is founded, and with the opinion of the officer commanding the corps in which the promotion is to be made, all which shall be reported to Congress, by the secretary at war with his opinion concerning the same.

All non commissioned officers and privates to be engaged for six years; with this condition that if a war should break out during the time, they shall be obliged to serve to the end of it.

Fortifications

The fortifications necessary to be kept up are of two kinds, land and naval; the first for internal security the last for the protection of the fleets of the United States.

As to the first kind, there are many important posts already existing, several of which it will be essential to occupy and guard 'till more permanent provision can be made on a general plan. For this Congress have already made temporary provision by their resolution of the [*blank*]. If the time therein limited should be likely to expire before a general system can be adopted, it can be prolonged.

The Committee are of opinion that the principles laid down by Major General Du Portail, Chief Engineer, in . . . [his peace establishment memorial] annexed to this report, so far as they respect merely the article of fortifications are in general sound and just; and that it will be expedient for Congress, so soon as they have determined on the establishment of the corps of Engineers, to instruct the head of that corps to make a survey of the points proper to be fortified and to digest a general plan proportioned to the military establishment of the United States to be laid before Congress for their consideration. . . .

Military Academies

The Committee are of opinion that the benefit of such institutions rarely compensates for the expence—that military knowledge is best acquired in service, that with respect to those branches of service which are of a more scientific nature, the professors proposed to be attached to the corps of Engineers, will produce substantially all the utility to be expected from academies—that at all events institutions of this kind can only be an object of future consideration. . . .

General Staff

The Committee are of opinion that a general staff in time of peace (except a General officer to command the troops another to command the corps of Engineers and Artillery and an Inspector General) ought to be dispensed with as all the purposes may be answered by the war department, by contracts, and by the Regimental staff.

The pay of the officers here mentioned and other emoluments to be as follows: General Commanding the troops—300 dollars pay per month; General commanding Engs—250 dollars per month pay and subsistence; Inspector General—250 dollars per month pay and subsistence.

In time of war two Regiments to compose a Brigade and a Brigadier General to be appointed to each brigade with 200 dollars pay per Month and 5 rations of forage per day. . . .

The Committee are of opinion that with a view to either of the proposed establishments, it will be proper to direct the Commander in Chief to appoint a board of officers, the Inspector General, Commandant of Artillery and Chief Engineer being members, to revise the regulations for the army of the United States, and to digest a general ordinance for the service of all the troops of the United States, and another for the service of the militia; and to transmit both with his observations to Congress for their consideration; the latter when approved to be recommended to the several states. . . .

Remarks

A. Corps of Engineers. The artillery and Engineers are united in one corps from the great analogy in the service which when the corps are separated gives rise to frequent disputes about the respective duties of each, very injurious to the service; there is a great resemblance in the preliminary studies and qualifications requisite to form the officers of both, and the Union is conducive to economy. There is an extra number to serve as Engineers.

B. The pay of this corps is generally higher than of any other; because there is much preparatory study and labour to qualify an officer, and promotion is much less rapid.

C. There are a great number of officers in proportion to the men; because artillery are chiefly in detachments and are of so much consequence in military operations that the pieces ought rarely to be trusted to non commissioned officers. . . .

—Syrett, *Papers of Hamilton,* 3:381–83, 387, 389–92, 395–96.

While the Hamilton Committee had acted with speed to submit its final report in June the full Congress—increasingly antinational in sentiment—balked. Even a visit to Congress by Washington in late August failed to get results.

Meanwhile, Washington went ahead with plans to transfer British-held forts to American custody. He sent Maj. Gen. Baron von Steuben to Canada to confer with General Frederick Haldimand, the British commander. Jean Louis Ambroise de Genton, the Chevalier de Villefranche, who accompanied von Steuben, recorded his own observations regarding existing British works and plans for peacetime fortifications on Lake Champlain. In his report Villefranche, a lieutenant colonel in the Corps of Engineers, apparently agreed with Rufus Putnam's assessment: the Lake Champlain—Hudson River corridor remained as crucial in peace as it had been in war.

6. VILLEFRANCHE'S OBSERVATIONS ALONG THE ROUTE TO CANADA

The Chevalier de Villefranche to George Washington.

West point, September 17th, 83

Sir:

I have the honor to send to your excellency my observations while with general baron de steubens; they are very counteracted, and besides i cannot warant their exactness, owing to the general being in a very great haste, to get to Canada, we did not stop to any of those positions on lake champlain which it had been very interesting to examine; and i was not permitted to go on Shore at *l'isle aux nois* and st. john. . . .

Observations. Of all the positions that i have seen on lake champlain, it appears to me that wind mills' point is the only one advantageous to be fortify'd, in order to deffend its entrance. At that place it is but about one mile wide, i Could not be inform'd exactly were the chanel passes, but in supposing it to be in the middle, the distance would not be too great to gall very much the ships at their passage under the firing of the works that might be erected there.

As far as i Could guess wind mills' point advances about three quarters of a mile into the lake, its foremost part is about 7 or 800 yard broad and become narrower as it joins the Continent; there is no Commanding ground round that position, the Country at that place is very level, and i was told that in great increases of water it is overflowed at a very Considerable distance, excep the point, which never is from wind mills' point to the 45°.[14] The lake grow narrower and the Country is very level, perhaps would it be more advantageous to take a position more advanced, principally if the channel passes near its banks, it is what i could not be informed of.

At about 8 miles this side of wind mill's point is *l'isle la motte,* the northerly point of that island is but about 1 1/4 of a mile distant from the southern part of *point au fer* between those two points, is a small island which is not marked on the chart; the East channel of *l'isle la motte* is but about 500 yards distant from its northern point; if this point that of *point au feu,* were fortifyed and a battery erected on the above mention'd island, it would render it very difficult for vessels to go up the lake.

The British have two posts this side of the 45°. The first on *long isle* at a place Call'd dutch mans point. From the informations i have taken (for we did see the works but at a distance of at least 4 miles) i have learn'd that they have only a strong Block house where are no other troops but refugees Commanded by a doctor smith, they have there well built Barracks for about 800 men.

The second post is at *point au fer,* at about 3 miles this side of *wind mills' point,* it is very trifling, it Consist in a stone house at the 4 angles of which they have erected tambours. The whole is surrounded by palissade in a square form, at the angles of which are small bastions made of palisade tow.

Beyond the 45° [in Quebec Province] the 1st post you meet with is on *l'isle aux nois* before this war it was allmost nothing, but it seems that the British will now make of it one of their main forts. . . . *L'isle aux noix* is small, extremely flat as well as the opposite shores, the northern part of it swampy. Small boats Can only pass on the west side, the ship channel is on the East. The old fortifications which . . . stand . . . are in a Very tattered situation, they Consist in a [sodded] fort situated in the middle of the island, it is surrounded with block houses; they are Erecting three redoubtes at this time; . . . two on the East and one on the west side, those redoubts are built with timbers, and seemed to me to be 15 or 20 feet high and Each large enough to Contain 3 or 400 men. They are allmost Compleated. The British have at that place large magazins, and Barracks for 1500 men. Having taken my observations from on board of the ship where i was i Cannot warrant for the absolute exactness of them.

St. john is the 2d. post on the river chambly, it appears to me that it is very much neglectected [*sic*]. It Consist in two soded redoubts with several planked embrasures, they are situated on the Bank of the river; i was told that they were joind by palissade at the beginning of this war, but it remain nothing of it. It appeared to me that St. john on the land side is surrounded with pickets with a parapet behind it 3 or 4 feet thick; the Country round seems to be very flat. I can't say no more of it being on board of a ship from which it was allmost impossible to see any thing.

Chambly is the 3d. post on the river. It is but an old Castle flancked with 4 tours 30 or 35 feet high. The walls are not more than 3 feet thick, it is of no deffence against artillery; it was formerly built just to deffend against indians. 300 men may be lodged in that Castle.

Sorrel is the last post that is to be met on the river it is not fortify'd; the British have at that place barracks for 1500 men and verry Considerable magazins.

—Washington Papers, roll 93.

By fall 1783 the full Congress at last seemed to be moving slowly toward consideration of the peace establishment question. Duportail wanted to go home, so Hamilton's committee requested a second, more detailed report from him on the engineering department. The result—forwarded to Washington on September 30—was a strong position paper, the only surviving personal record of Duportail's thoughts on a peace establishment.

The Chief Engineer began emphatically with a call to unite the artillery and engineering departments. Among the reasons he cited were the close relationship of the two in training and practice; great monetary savings; and the elimination of existing disputes over authority. As Gouvion had done earlier, Duportail noted that the French had tried unsuccessfully to unite their artillery and engineers. But, Duportail contended, the union could be achieved more easily in America, "where there is not yet private Interests or *passions* of the Corps to combat."

PLAN FOR A CORPS OF ENGINEERS AND ARTILLERISTS
Presented by Louis Duportail
September 1783

Director General or Commandant

- 1st District Director*
- 2nd District Director
- 3rd District Director
- Commander of the Academy†

- 1st Regiment—
  Colonel, Lt. Colonel, Major, Paymaster-adjutant, Quartermaster, 2 Surgeons, Sergeant Major, Drum Major, 6 Fifes and Drums.
  5 Companies Gunners, 1 Company Bombardiers, 1 Company Sappers and Miners, 1 Company Artificers.
  Each company having a 1st and 2nd Captain, a 1st and 2nd Lieutenant††, 3 Sergeants, 6 Corporals, and 24 Privates.
- 2nd Regiment—
  With the same officers and companies as the 1st Regiment.

*A Brigadier General or Colonel
†A field officer assisted by a captain
††Four officers because of the need to detach officers without troops

PLAN FOR A CORPS OF ENGINEERS. *This chart outlines the structure of the peacetime engineering establishment proposed by Chief Engineer Duportail in September 1783.*

To man the peacetime engineering department Duportail wanted two regiments of eight companies each, with one company in each regiment to be a company of sappers and miners. He further proposed a tripartite division of the frontier, with a brigadier general or colonel of engineers as director of each division. The directors' duties included reconnaissance and the planning and erection of defensive works. He placed the district directors outside the regimental command structure and responsible directly to the director general or commandant of engineers. His argument was effective: the directors "Shall have enough to do, without clogging them with the particular Command and Care of a Regiment." To reinforce the fragile union among the states, Duportail favored a single commandant at the head of the engineer corps.

In the conclusion of his report, Duportail again joined the chorus favoring a military academy, which he regarded as "the Nursery of the Corps." The retiring Chief Engineer outlined the academy's structure and proposed leaving vacant the position of second lieutenant within each company of the engineering department's two regiments. The academy's first students would then fill the vacancies, and "Men of Theory and Knowledge" would be more quickly put into service.

The full Congress ignored Duportail's final proposal as it had every other peace establishment proposal.

7. DUPORTAIL URGES UNITING THE ARTILLERY AND THE ENGINEERS

Louis Duportail's recommendations for the engineering department of the army.

September [30], 1783

. . . What I think best for the united States to do . . . is to unite the Department of the Artillery with that of the Engineers So that after the Union every Officer Should be without any Distinction an Artillery Officer and an Engineer. There are many Reasons for the Operation which I propose; The following are the principal ones.

1st. The preliminary Knowledge necessary for an Artillery Officer or an Engineer, as the different Branches of Mathematics, the natural philosophy, etc., are the Same.

2ndly. The very great Relation between the professions themselves. The most important use of Cannon, that one which requires most Skill and Knowledge of the Art is for the Defence of fortified Places or the Attack of them. When an Engineer combines the different lines and Angles of a fortification between themselves and the Surrounding Ground to make that fortification of the most advantageous Defense; when to the Contrary he

frames the Plan of the Attack of it, and lays out his Trenches and other Works, he has principally in View to prepare the use of the Artillery; facilitate its Effects and make them as great as possible. So he must be personally acquainted with the Nature of that Arm and have really on that Point all the Knowledge of the Artillery Officer. It is true the Thing is not reciprocal and that the Artillery Officer when he is not Engineer at the Same time and is confined to the Execution of his Cannon does not want to have the Knowledge of the Engineer; But why not make him acquire it Since he has already all the Preliminary Knowledge and the practise of the Artillery; and So he wants only to add the Study of the Art of fortification. Do we not See clearly that to do otherwise is to make two Professions of what ought to be the Object of one only.

3rdly. The great Economy which results from that Union. Wherever there is any fortification there is an Engineer to have the Charge of it, and there is an Artillery Officer for the Artillery. But very often each of those Officers has not a Sufficient Employment in Departmment and if the Departments were united one Officer could do the Duty of the two with the greatest Ease. I think one third of Officers might be Spared upon the whole without the least inconveniency for the Service.

4thly. That great Relation which we said to take Place between the two Professions of the Artillery Office and the Engineers is the Cause of frequent Disputes and Dissentions amongst them, because the line of Separation cannot be drawn exactly, principally for the most delicate Circumstances in War, and the more Knowledge and Talents each Corps possesses, the more Difficulties arise between the individuals, because they have more pretensions. So that reciprocal Envy and Enmity make the very qualities which Should be conducive to the Good of the Service turn against it.

For those Reasons and many less important the Departments of the Artillery and of the Engineers are united in European States; and in those where they are not Plans for uniting them are proposed every Day. In france that Union has been executed once and if it did not last it was because the time was not proper (in the middle of the war), and the Operation was formed upon a bad Scheme. Besides the private Interests of many Individuals principally of the first Officers were much hurted by it. Add to this that, as those Corps, in France exist a long while ago, each of them has acquired a particular *Spirit* which makes it very averse to Such Union. However, every Officer of Experience almost, is persuaded of the Advantage of it, and that it will take Place one Day or another. But here where there is not yet private Interests or *passions* of the Corps to combat, the Congress must avail themselves of a happy Circumstance which may never return to make at once their Establishment upon the Plan that Experience Show to the old Peoples of Europe to be the best, although they cannot always follow their Notions.

Establishment of the Corps of Artillery and the Engineers

I suppose here, according to the letter which his Excellency General Washington has honored me with, the present Establishment must be calculated only for the Want of the Frontiers against the British for if the united States intended to have fortified Harbours, what I am going to propose Should be insufficient.

I propose two Regiments each to be composed of five Companies of Gunners, one of Bombardiers, one of Sappers and Miners, one of Artificers, each Company in time of peace Shall be composed of 3 Sergeants, 6 Corporals, 24 privates, commanded by a first Capt. a second Capt. one first Lt. and one Second Lieutenant. (In time of war the number of privates may be doubled.)

The Regiment Shall be commanded by one Colonel, one Lt. Col. one Major, adding to this, one pay master adjutant, one Quarter Master two Surgeons, one Sergent Major, the Drum major, 6 Drums and fifes, which would make the whole of the Regiment altogether of 327 Men and the two Regiments of 654.

I propose four Officers in each Company because it is necessary to have Some to detach without Troops to different Places for Erection or Care of Fortifications Sunderies, etc. Thus one of the Captains or Lieutenants, may be detached that makes 16 Officers for the two Regiments, one of the field Officers, the Lt. Col. or the Major may be detached also, so in all there will be eighteen which will be sufficient in this Moment.

I propose to divide the whole extent of the frontiers in three Parts at the Head of which there Should be an Officer of the Rank of Brigadier or Colonel to have the Direction of all what concerns the Artillery or the fortifications erected or to be erected and generally of all the Establishments relative to that Department.

Above all there must be a Commandant, Director General of the Artillery and the fortifications of the united States. To the Director General, the three Directors of the Districts mentioned Shall be accountable for every thing, as the Colonels of the Regiments and every Person employed in that Department.

Through him Shall the Orders of Congress or of the Board of War be transmitted to the Corps. Such an Office appears to me absolutely necessary, to have that important Branch of the Administration governed upon the Same plan and constant Principles. Let us remember that a great many Things tend to break the Union between the american States, all the continental Establishments ought to be calculated to reinforce that Union. Thus, if in this Instance, there were, at the Head of the Department of the Artillery and fortifications many Officers independent one from another, great inconveniences might result from it. These Officers would differ in Opinion and Soon be Jealous and enemys of one another; Some might ac-

quire more influence with Congress than others. So in the Establishment of fortifications, in the Distribution of the Means of Defense, each State might be treated, not according to what its Situation, its importance requires, but according to the Credit of the Officer who has the Direction of that Department.

Some Persons will perhaps imagine that the three Directors of Districts proposed are not necessary, that, for the Sake of Economy, the Colonels and the Lt. Col. of the Regiments may be charged with the functions attributed to those Directors. But if they observe, those functions Shall be to make under the Direction of the Director General, an exact Reconnoitre of all the frontier, to Search for the most proper Places for the forts and for all the Establishments relative to War, after that to plan those Establishments, preside over their Erection. They will confess probably, that the Directors of the Districts Shall have enough to do, without clogging them with the particular Command and Care of a Regiment, which they could never attend to. But, as we have mentioned, a field Officer of each Regiment Shall be detached with the directors of the [District?] to assist them and have under them the Command of the Captains and Subalterns employed in the Busyness above indicates.

I do not think it necessary here to expatiate myself upon Talents and Knowledge which the Duty if attributed to the Directors of the Districts requires of them as well as of the Director General. I take the Liberty to refer on that Head to the Memorial, wherein I endeavored to Sketch what is to be done. A Vauban (. . . the greatest engineer France and Europe had . . .) should be necessary in this Moment to the united States and nobody unless he thinks himself as able a Man as that famous Marshall, can undertake, without the greatest Diffidence, that difficult Work. And he who would undertake it, without any fear, proves that he has not the least idea of it.

Academy

The necessity of an Academy, to be the Nursery of the Corps, is too obvious to be insisted upon. The Academy must be commanded (under the Director General) by a field Officer, assisted by a Captain. It requires a Master of Mathematics and natural Philosophy, one of Chymistry, and one of drawing; as for Military Matters, it belongs to the Officers of the Head of the Academy to give those Kind of Instructions. This is not the Place of enlarging upon this Subject. The Student ought to Spend three Years at least at the Academy.

According to the total number of Officers of the Corps, ten or twelve Students Should be Sufficient to keep the Corps compleat; But as it is very advantageous to introduce in it, the Soonest possible, Men of Theory and Knowledge, I will propose here to leave in each Company the place of Second Lieutenant vacant, to fill those Vacancies with the first Students which will receive their instruction at the Academy. So the Number of Students

in this Moment, might be of twenty, and I do not doubt that it Shall remain Such afterwards, because if the Union of the States [is?] durable the Establishment proposed here Shall be found certainly too Inconsiderable, and if I propose it So, it is only to fall in with the present Circumstances and Dispositions.

. . . It is not improper perhaps to observe here that according to the calculations i made the total establishment—such as i propose it—including the academy, the Rations and Cloathing will not Cost much more than two hundred thousand Dollars. Only i lessen a little the pay of the soldiers which is Really too high.

—Papers of the Continental Congress, roll 45.

Still hoping for a peacetime army and particularly concerned with getting adequately trained artillerists and engineers, Washington pressed Duportail to convince at least a few French officers to remain in America. The Chief Engineer himself preferred not to stay,[15] but he felt sure other men might want to. However, they would require that the United States give them "an honorable, solid employment" and "show themselves to be a great respectable empire, or at least take proper measures for becoming so." As matters stood, Duportail maintained, anyone choosing to stay would clearly be making a blind choice.[16] Congress's continued inaction tied Washington's hands. By the end of the year Duportail and Gouvion had returned to France.

In late 1784 Maj. Pierre Charles L'Enfant, a Revolutionary War engineer officer who would later achieve great fame as the designer of the nation's capital, made another vain appeal for a peacetime engineer corps. Earlier L'Enfant had been led to believe that he would head the postwar engineering department, but now there was no department to command. Worse still, he had already forfeited the chance for an engineering appointment in France.

In his detailed, well-reasoned memorial, L'Enfant did not advocate a European-style army for the United States, but he recognized the need for a general system of defense planned and maintained by army engineers. His preference for continental rather than state engineers and for a centralized system of fortifications was clear. He feared the states were insufficiently aware of the potential threats to their security. "It is neither the number nor extensiveness of forts that Secure a country," L'Enfant insisted, "but their well combined Situation."

To a greater degree than anyone else, L'Enfant elaborated the qualifications of engineers and their training, organization, and duties. Although he attested that "real Knowledge of Several Sciences" was prerequisite to successful performance, L'Enfant curiously did not specifically recommend a

military academy. The engineer required qualities that could not be obtained through study—a "cool and active disposition," pride, and sobriety.

In light of later Corps of Engineers responsibilities, L'Enfant's plan was remarkably prescient. As he specified them, the engineers' duties were to include operation of all fortifications, direction of all military and civil construction, maintenance of public roads and bridges, and general surveys. Each of the three proposed engineer brigades would be assigned to a separate geographical area. States could request assistance through the Chief Engineer. To assure quality construction and maintenance, L'Enfant proposed constant inspections of the corps's work, including an annual inspection of the most important projects by the Chief Engineer.

In L'Enfant's view the Chief Engineer's other duties included personal direction of the construction of key works and preparation of an annual report and an estimate of future expenses. The Chief Engineer also had contracting and financial responsibilities. First, he was to see that no major project "be contracted for privately but advertised to those who will give the most reasonable proposals," then he was to certify accounts and authorize payments.

Considering L'Enfant's later career, one of his arguments for an engineering establishment was especially interesting. The corps, he said, would be excellently equipped to build public buildings—such as a home for Congress—once a permanent capital was decided upon. Like earlier proposals for a peacetime engineering department, L'Enfant's fell upon deaf ears.

8. "A NEUTRAL POWER MUST BE READY FOR WAR"

Pierre L'Enfant's peace establishment plan.

December 15, 1784

. . . Under the flatering expectation of your Indulgence I will endeavour to hold up to your consideration some Reflections on the present State of America and Suggest such measures as are most immediately necessary to be taken as well to Secure the benefits of the peace which the United States so happily enjoy as to promote their internal tranquility during the troubles of any new Contest that may arise. . . . A neutral power it will be said receives the benefits of an universal trade, has his possessions respected as well as his Colours by all powers at war; this may be said of a powerful Nation but this America is not to expect, a neutral power must be ready for war and his trade depends on the means of protecting and making his Colours respected; America neutral without Navy without troops or fortified harbours could have nothing but calamity to expect, her coast her Sea towns exposed to the insult of the first advanturer would

often becom the prey of the fortunate one who from a premeditated intention or forced by necessity entering in a defenceless harbour Soon followed by his adversary would without other Regard than that of his own Safety change in an instant the pleasant Seat of peace into a theatre of Sanguine Exertion, then when her Coasts were wasted and her towns plundered Should She call for protection or attempt to obtain Redress not only would it prove useless but Even any measures She might take to prevent repetition of Such flagrant Evils will be suspected for th'o not in fact a motive for difference they may become from a Watchful Enemy a means of covering under apparent Excuse some unexpected and offensive Undertaking. As a power taking an active party alliance Would be entered into, fleets to protect the Coast may be depended upon trade will flourish, proper measures being taken to guard the frontier against sudden invasion no inland war being to be feared, privateering may be encouraged. Riches Honour and plenty will ensue.

War or peace is the option and no dependance may be made in either choice, such are the Evils and advantages which America has to considere . . . . Opposition to the levy of permanent troops and neglect in fortifying and garrisoning proper posts must not only become prejudicial to tranquility but ruinous and destructive to liberty and independence: power to Resent [and] ability to protect are the only means to secure National faith. These are the points which America has to attend to and upon which her credit as a Nation is to depend. Proper forts arsenals Magazines and a well disciplined body of troops are of most important and urgent Necessity. No Nation whatsoever having right to expect to be free from those calamities to which ambition and jealousy constantly expose them . . . . Considering America with regard to the respective States as a Valuable tract of land held in common by a Society whose general interests do not depend on the security of its internal division but entirely on that of the whole of its circumferences whose expences of fencing or walling are to be at the general charge and consequently necessary to be calculated on a general principle; from that comparisons the respective States being to consider themselves interested in securing not only that portion of the frontier which makes a part of thier possession, but even that which has the same Reciprocity with the other States of the Confederation, it being evident that the neglect of one of them may occasion the Ruin of the other; care and attention in guarding them cannot be depended upon but by trusting the security of the frontier in general to the supreme power representative of the Confederate States as to the one more directly interested in preserving the whole: what I Said of the frontier I not only understood the inland Boundary but I speak of all the Sea Coast and meant every harbour and Entrance whose present situation cannot but be alarming not only with respect to the Honour credit and tranquility of each of the States in particular but to that of the United States in gen-

eral, it being incontestible that any insult offered on that side would be of more capital consequence; . . . a general plan of defence is to be adopted . . . to be under the direction of an Engineer in chief trusted to the care of officers of continental description who Should have the care and inspection of all the fortifications, magazin[es], etc. . . . already erected or to be built. This mode will not only prevent inconveniency but save the Expenses which would arise to the different States from having Engineers of thier own and yet the States individually receive the same benefit the Engineers of continental establishment being divided in different brigades or departments would have the directions of Every work which the States Should considere as necessary to add to thier strength and tho those continental officers Should be under the laws and discipline of the Continental troops they Should be bound to follow Such directions which agreeable the general interests Should be given to them by the Executive power of the State where they shall make thier residence and Should be made responsible for the Safety of the posts under their inspection; this mode of having Every object of the same description under a single chief and same department will not only be a real means of avoiding unnecessary expences but will enable Gouvernment to receive better information and form a more just idea of the advantages or defects of Such and Such places which may happen to be injured. . . .

. . . The danger of the defenceless State of the frontier being evident, and considering that it is indispensable to have the Situation number and extensiveness of forts combined to enable a proper calculation of the number of troops which are to garrison them. Engineers whose duty is to be independent of that of other Regiments ought from circumstances of more immediate necessity to be appointed previously to the levy of any body of troops and supposing that obstacles will hinder the appointment of a Sufficient number, a chief with aides may be provisionally appointed and proper assistance and directions given to him to reconnoitre the frontier which will enable him to project proper plans, from whose view may be obtained a more just idea of the differents importance of the Several points where fortifications may be necessary for the better security of the indian trade, of the different harbors as well as protection to the Emigrants who can only receive Encouragement to settle in the desert frontier. But from a particular attention in protecting them. These plans of the position and nature of the forts proposed Being examined Should as already mentioned when adopted remain in the hands of the Continental power and commited to the care of the Engineer in chief . . . .

. . . Jealous to give particular proofs of the attachment, I bear to the welfa[re] and happiness of America I Shall With eagerness continue longer Spending my time in her service if persuaded by the Evidence and considerations of the advantages of the proposed corps of Engineers your Honorable Body will favour me with further directions concerning its for-

mation which I look up [on] as the only one from whose assistance and Knowledge can be obtained the requisite points for which fortifications are inten[ded], parting from the principle or maxim that it is neither the number nor extensiveness of forts that Secure a country but their well combined Situation calculated with the means of procuring Supplys and the number of men trusted with their defences. . . .

Observations upon the qualifications requisite in an Engineer and without which they could not be Considered as such.

Previous to enter into the particular concerning the duty of Engineers and to propose any Schemes for the better formation of a body upon whose attention the Safety and quiet of Every nation generally depend, it is necessary to reflect upon the qualification which it is requisite that they Should be possessed of, the good performance of their duty being to depend upon their real Knowledge of Several Sciences which are necessary to be considered.

Arthmetic—Is necessary for enabling them to make an exact mensuration of all work together with a proper Estimate of Expences, etc.

Geometry—Without a perfect Knowledge of which no dependance can be made upon any Survey nor upon any draught of any work or building whatsoever.

Mechanism [*Mechanics*]—Which is necessary to forme a Sound idea and establish any Confidence in the Strength or Composition of any machine whatsoever, etc.

Architecture—Whose Knowledge is essential in Every building undertaking, etc.

Hydraulics—Which relate to water works and give the means of raising or changing the course of water, etc.

Drawing—Without the assistance of which no plans no Schemes whatsoever can be well explain written explanation being insufficient . . . to give a just idea of the local and particular Situation of any place, work building, etc.

Natural-Philosophy [*Chemistry and Physics*]—Natural philosophy being necessary to judge of the nature of the Several materials which are used in building as that of the quality of the Elements that of the water and of the air being necessary to judge of their wholsome qualifications with a vi[ew] to avoid making establishment in any places which might be injurio[us].

Many persons who to not reflects upon the Relations which all these Sciences have to one another Will object that a Knowledge of thems all cannot be expected in the same person but as the Knowledge of one facilitates the acquiring of another. Men of intelligence will soon obtain a suffi-

cient idea of their general Rules and principles. For besides those qualifications which are to be acquired by Study an Engineer Should be possessed of goods natural parts, of a cool and active disposition, Pride and sober: he must be fit for performing his duty in war with as much and Even more attention than in peace Considering that in war a man possessed as all the acquired Knowledge possible will be but little able to reduce it into practice without this quiet and active disposition, etc.

Duty of Engineers and Rules to Which they must be Subject, etc.

Every Engineer Shall be a Continental and a body shall be formed subject to the laws and discipline of the armies of the united States but no dependant of any particular corps or Regiments, being to work however with the other officers according to the Date and terms of their commissions and susceptible of command in Every places where they were senior to the other officers.

The duty of the said Corps shall be to attend to and have the direction of all the fortified places that of all military and civil building, the maintenance of the Roads bridges and Every Kind of work at the public charge, surveys of the several places Shall be by them made and properly drawn with a view to make out an atlas of the whole Continent from which the Supreme power may be able to obtain a more just idea of its situation and forme a distinct opinion upon its advantages and defects to these plans Shall be added proper Notes and Remarks with Schemes for taking advantage of good positions or of preventing the defects of some unavoidable inconveniency.

These officers shall be divided into three brigades each of which shall have under their care a proportioned number of the severals States.

The several States individually shall have a right to call for their assistance upon which they are to depend provided that a direct application be made to the Engineer in chief whose attention will be necessary to prevent an abuse of the said liberty which might become injurious to the progress of Continental undertakings.

The officers of the several Brigades or departments shall follow the directions given them by the Senior Engineers at the head of the respective brigades and Shall be accountable to them for the performance of their duty. They shall receive no orders from any other persons nor shall undertake any work without their Knowledge and consent, and the head of the different departements shall give them no orders without the authority of the Engineer in chief who is to be under the Controul of the Supreme power. They Shall be answerable for the goodness of the work under thier direction as well as for their maintenance and Shall inspect once in three months. Every objects under their care being to be assisted by the officers in the several places or the other persons to whom Should be committed any magazines Aarsenals. Of the State of which they Shall send an

account to the Engineer in chief with a proper return of the damage which may have happened with Notes upon the differents nature of the work and of the materials considered necessary for Repairs with an Estimate of the time and number of men it will require. No work to be undertaken previous to its urgency Being acknowledged by the Secretary at War or other perso[ns] in that department. With the Single exception of a Capital injury in a place of importance requiring immediate repair in Which case only the remedy Shall be instantly applied, giving notice of the urgency of the Case and having it certified by the officer commanding in the place.

The Engineer in chief will have the direction and inspection of the whole and Shall in the course of Every year visit the more important places he Shall Keept up the most exact And Severe disipline amongst his officers and be made answerable for all matters committed to their care, he Shall attend in person to the execution of the more capital works and at the end of Every year shall give an account of the progress of those which may have been undertaken and a general State of the whole with a return of the expences they Should have occassioned and an Estimate of those which will result from the undertaking of the works proposed for the ensuing Season, he may project and draw Every plan which he shall judge proper and submit them to the examination of the Supreme power—as to those of other persons by him appointed, none but his own plans or those he Shall have approved and signed Shall be susceptible of being executed: all persons who Shall draw any maps plans of their own or as copies Shall add their names with mention of the case: none Shall be presented to the Supreme power without having been communicated to the Engineer in chief who Shall certify the Same. An Exact account is to be Kept by him of all the plans maps, etc., which Shall be deposited in the War office and for which receipts are to be given to him as well as for Every Memorial. Return account, etc., he Shall adjust at the end of Every year the quarterly accounts which he Shall have received from the heads of the severals departments. Shall compare them with those of provisions and furniture and according to their exactness will giver Certificates.

He Shall Keept an exact account of all tools and defferent sorts of the materials which Shall be in Every Store at the openning of every Season for the year preceeding, from the account of the several works which should have been done he Shall judge of the proper employment of those which Should haven been taken out and if necessary make proper application to have them replaced before the opening of the ensuing Season he Shall pay attention to the furniture that it be of a good quality—and observe that none of a Capital nature Shall be contracted for privately but advertised to those who will give the most reasonable proposals and such as can be had in the vicinity of the place where wanted Shall have the preference. By th[is] means useless expenses will be avoided resulting from a double employement of men and carriage. He Shall certify all Settle-

men[ts] of accounts and no money Shall be given upon any return not Signed by him.

All Labourers and journeymen employed in his departaments Shall be Subject to the laws and discipline of the armies at the united States for the time they Shall remain under their directions. And in order to avoid expences and prevent the inconveniency resulting from hired labourers as practised in the civil line a number of workmen of all descriptions Should be inlisted as Soldiers and formed into three campagnies equally Shared among the Several departments and Should remain under the immediate command of the respective officers of the Severals Brigades. Which when reunited the three Should form a Battalion headed by the chief Engineer. These men Shall be Cloathed armed and Exercised like other foot regiments of the united States. Their pay being only to differ. The duty they Shall perform the hardship they are to undergo requiring a higher one whose amount however not being to be compared to the Expence of Keeping hired men will prove beneficial not only considering the money it will Save but the good which must result from the better dependance to be placed upon the Skill of men constantly employed in the same ligne of duty commanded by officers who from a habit of living with them will have repeated oportunities of juging of their ingenuity and consequently can trust on their attendance. The officers pay Shall be regulated with the Same regard to the duty they are to perform which duty will require that they have all the Conveniencies of life considering also the frequent journeys they must make and the expence of Keeping horses it being necessary that they be always ready for marching and not forced when called to duty to wait for Supplies of money or of other matter of which they Should happen to be in need all delay being to be avoided in the execution of thier orders and performance of their duty to which, they are to attend without any pretence to particular rewards which they are to expect only when employed for the benefit of a particular state in which case the Said State Shall give additional pay to the men and officers according to the time they have served and the nature of the duty performed.

As to the denomination of the several officers with respect to their Rank they Shall be commissioned as the officer of the other Regiments holding differents rank, with that attention that considering the misunderstanding which arises from discontent and and is the result of the Reluctance with which officers th'o jealous of well performing their duty attend to the opinion of men whom they considere as inferior in rank. It is necessary that the heads of each Brigades or department be field officer of a denomination under that of the Engineer In chief who Should be a general one, which title it is the more proper he Should be possessed of to enable him to perform the different lines of his duty, and make him considered in all the places or posts he is to inspect and for whose safety being made answerable it is consequently indispensible that his opinion be pre-

dominant over that of other officers who th'o trusted with the defence of such and such places are not to be supposed as possessed of the Knowledge and qualifications requisit in an Engineer whose Superiority of Rank cannot be in the least injurious to other officers in the Army the nature of their duty being entirely different and necessary to be independant of others. . . .

Formation of the Corps of Engineers as proposed and considered in the Scheme for new modeling it:

Number of Officers	Their Rank	The Brigades they are to be attached to
1	Brigadier general	Having the center and being Engineer in chief
1	Lt Colonel	Having the right
1	Major	Having the left
3	Captains	One in each
3	Lieutenants	One in each
1	Adjutant	. . . aid and Secretary to the Engineer in chief
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Formation of a Battalion of Workmen under the denomination of Sappers and miners:

100 men	1 Company	of the center commanded by a Captain and Lieutena[nt] belonging to that brigade
100	1 Company	Of the right commanded by a Capt and Lt. belonging to that brigade
100	1 Company	of the left commanded by a capt and Lt. of that Brigade
300 men	3 Companies forming a Battalion which when collected Shall be commanded by the Engineer in chi[ef] as Colonel the Lt Colonel Major and its officers.	


Be it known that Ferdinand Joseph Dreyfus de Brebon Esquire
is a Member of the Society of the Cincinnati, instituted by the Officers of the American Army at the Period of their separation, as well
to commemorate the great Event which gave Independence to North America, as for the laudable Purpose of cultivating the Duty
of keeping down in Peace Arms assumed for public Defence, and of uniting in Acts of Brotherly Affection and Bonds of perpetual Friendship
the Members constituting the same.
IN TESTIMONY whereof I the President of the said Society, have hereunto set my Hand at the General Meeting
in the State of Virginia, this Thirty first Day of October in the
Year of our Lord One Thousand Seven Hundred and eighty six, and in the Year
Year of the Independence of the United States
By order
Secretary
President

Division of each Company. Each Company—2 divisions and each division 2 platoons the first division commanded by the Capt. . . . the Second By the Lieutent. Each platoon by a Subaltern ranking as mentioned in the military Establishment.

The Service which is to be Expected from such an Established corps, will prove a mine to Save more than the said third of Expences in any underta[king] what soever. Advantages which will turn to the immediate benefit of the United States by comiting to the Said corps the Execution of all building underta[king] such as those of a Congress, who were Ever the Seat of his permanent residence is to be agreed upon will necessitate to have Erected proper building whose local to Enforce the object of thier destination are to be combinated in Such a maner as to give an idea of the greatnes of the empire, as well as to Engrave in Every mind that Sense of respect due to a place which is the Seat of a Supreme Sonverainty. . . .

—Papers of the Continental Congress, roll 98.

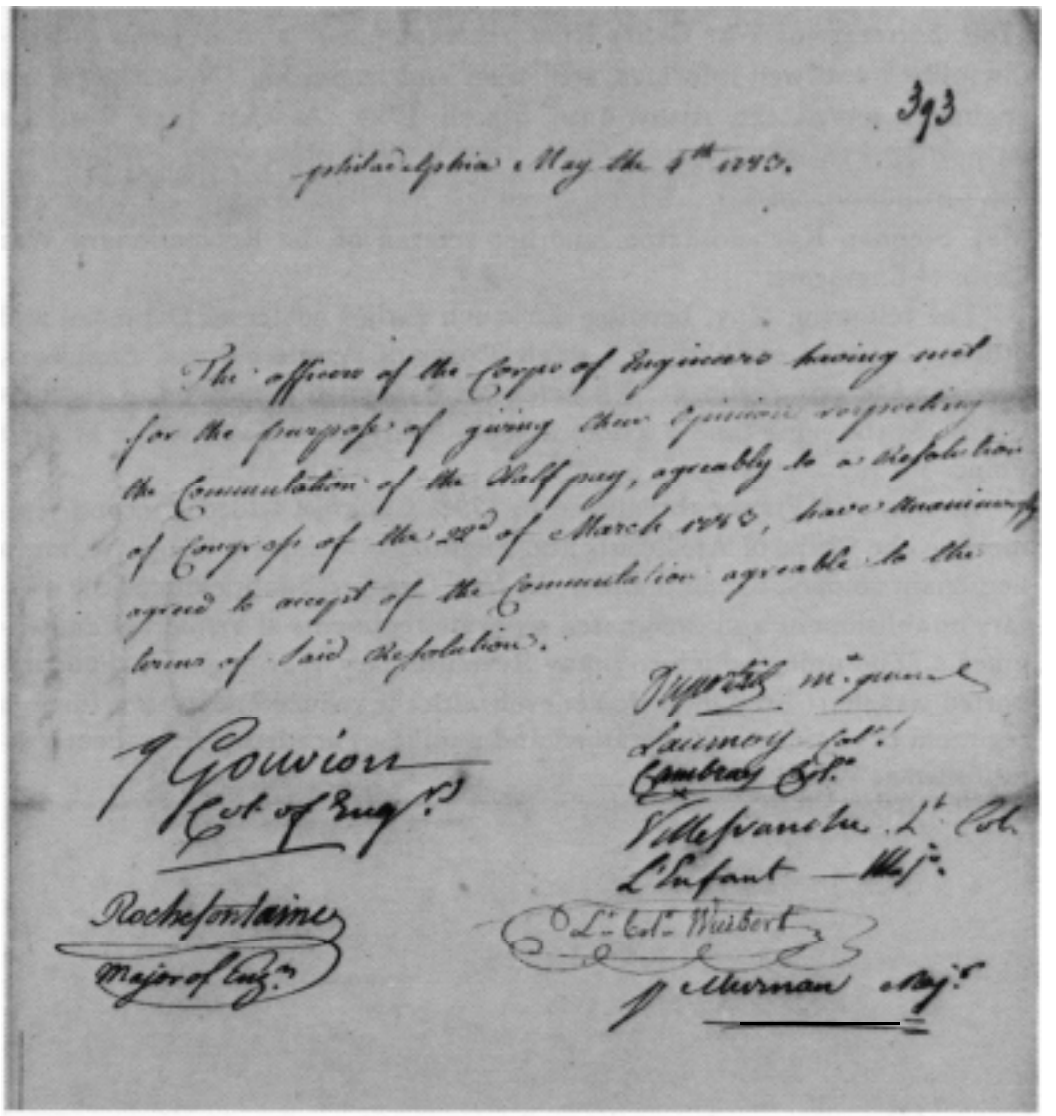
Although Congress shelved the peace establishment proposals in 1783–84, the ideas they contained remained alive. Peace establishment advocates merely retreated to the background and waited until they were in a better position to gain acceptance of their ideas. Strong opposition continued, forcing supporters to move cautiously. Thus over the next eighteen years, a peacetime American Army took shape piecemeal.

Despite their valuable wartime contributions, by the end of 1783 the Corps of Engineers and its companies of sappers and miners were allowed to muster out of service along with all but Col. Henry Jackson's Continental Regiment and a unit of artillery stationed at West Point. On 2 June 1784 Congress abolished Jackson's regiment, retaining only the unit of artillery to guard West Point, Fort Pitt, and a few magazines. However, the next day Congress voted a new force of 700 men that became the 1st American Regiment under the command of Lt. Col. Josiah Harmar, assisted by Capt. John Doughty, commander of the surviving artillery unit. Over the next several years the 1st American Regiment built several new forts on the western frontier. Trained engineers were not involved. The new forts offered vital protection for the settlers, Indian agents, and land surveyors who poured into the Ohio region.

SOCIETY OF THE CINCINNATI DIPLOMA. *In May 1783, to perpetuate the memory of the Revolution and maintain lasting friendships, a group of Continental Army officers formed the Society of the Cincinnati. Pierre L'Enfant of the Corps of Engineers designed the society's diploma. The one shown here belonged to Ferdinand de Brahm.*

Private Collection of Dr. Robert A. Stein

BADGE OF THE SOCIETY. ***L'Enfant designed this badge for the Society of the Cincinnati, which many of the engineer officers joined. French veterans established a branch of the organization in Paris.***
Society of the Cincinnati, Washington, D.C.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Philadelphia May the 5th 1783.

The officers of the Corps of Engineers having met for the purpose of giving their opinion respecting the Commutation of the half pay, agreably to a Resolution of Congress of the 22d of March 1783, have unanimously agreed to accept of the Commutation agreable to the terms of said Resolution.

J Gouvion Col. of Engrs

Rochefontaine Major of Engrs

Duportail M. General

Laumoy Col.

Cambray Col.

Villefranche Lt. Col.

L'Enfant Majr.

Lt. Col. Nisbert

J Sherman Majr.

ARMY PENSION AGREEMENT. ***Responding to demands from the Army, Congress in March 1783 proposed giving officers full pay for five years in interest-bearinggovemment securities rather than a pension of half-pay for life as originally promised in 1780. By signing this document in May 1783 a majority of the engineer officers, all foreigners, accepted Congress's plan.***

Record Group 360, National Archives

Although Congress balked at the idea of a postwar establishment with an engineering department, it did see the need for a geographer and surveyors. Thus in 1785 Thomas Hutchins became geographer general and immediately undertook his biggest assignment-surveying "Seven Ranges" of townships in the Northwest Territory as provided by the Land Ordnance Act of 1785. For two years Harmar's troops offered Hutchins and his surveyors much-needed protection from Indians.

When the new government under the Constitution was launched in 1789, Secretary of War Henry Knox recommended "a small corps of well-disciplined and well-informed artillerists and engineers." Nevertheless, no engineers served the Army until March 1794. At that time Congress authorized President Washington to appoint temporary engineers to direct the fortification of key harbors. Among those named were L'Enfant and Maj. Stephen Rochefontaine, another veteran of the Revolutionary War Corps of Engineers.

The following May, heeding the much earlier advice of Duportail and others, Congress established a single Corps of Artillerists and Engineers, consisting of one regiment. Rochefontaine assumed command of the new Corps. At the same time a school to train Army officers was set up at West Point.

As war with France threatened in 1798, Congress added a second regiment to the Corps of Artillerists and Engineers, with John Doughty, now a lieutenant colonel, as commander. In 1802 Congress again reduced the military establishment and designated separate regiments of artillerists and engineers. The union which so many Revolutionary War engineers had supported was short-lived indeed. Yet even with the reduced peacetime force, a regiment of engineers was retained and a military academy permanently established at West Point.